

CLAIMS

What is claimed is:

1. An apparatus comprising:
 - a compressor having an inlet and an outlet and at least a first port between the inlet and outlet;
 - a condenser having an inlet coupled to the compressor outlet to receive refrigerant and having an outlet;
 - a first evaporator having an inlet coupled to the condenser to receive refrigerant and having an outlet coupled to the compressor inlet; and
 - a second evaporator having an inlet coupled to the condenser to receive refrigerant and having an outlet coupled to the compressor first port to return refrigerant to the compressor, bypassing a compression path between the compressor inlet and first port.
2. The apparatus of claim 1 wherein:
 - the compressor is a screw-type compressor.
3. The apparatus of claim 1 wherein:
 - the compressor is a scroll-type compressor.
4. The apparatus of claim 1 further comprising:
 - at least one heat exchanger exchanging heat from refrigerant discharged by the condenser to refrigerant discharged by at least one of the first and second evaporators.
5. The apparatus of claim 1 further comprising:
 - a first heat exchanger exchanging heat from refrigerant discharged by the condenser to refrigerant discharged by the first evaporator; and
 - a second heat exchanger exchanging heat from refrigerant discharged by the condenser to refrigerant discharged by the second evaporator.
6. The apparatus of claim 5 wherein:
 - a donor conduit of the first heat exchanger is downstream of a donor conduit of the second heat exchanger along a refrigerant flowpath portion extending downstream from the condenser.

7. The apparatus of claim 5 wherein:
a refrigerant flowpath portion extending downstream from the condenser branches into:
a first branch through a donor conduit of the first heat exchanger, the first evaporator, and a recipient conduit of the first heat exchanger; and
a second branch through a donor conduit of the second heat exchanger, the second evaporator, and a recipient conduit of the second heat exchanger.
8. The apparatus of claim 1 further comprising:
an economizer having a flowpath segment from upstream of the first and second evaporators to downstream of the second evaporator.
9. An apparatus comprising:
means for compressing a refrigerant having a compression path between inlet and outlet ports and an intermediate port at an intermediate location along the compression path;
a condenser;
first and second evaporators; and
means for coupling the inlet, outlet, and intermediate ports, condenser, and first and second evaporators so as to operate the first evaporator at a first temperature and the second evaporator at a second temperature, lower than the first temperature.
10. The apparatus of claim 9 wherein:
the means for compressing consists essentially of a single compressor.
11. A method for cooling first and second locations comprising:
compressing a refrigerant with a compressor having a compression path between an inlet port and an outlet port;
condensing the compressed refrigerant;
evaporating a first portion of the condensed refrigerant in a first evaporator at a first temperature to cool the first location;
evaporating a second portion of the condensed refrigerant in a second evaporator at a second temperature, higher than the first temperature, to cool the second location;
returning at least a portion of refrigerant from the first evaporator to the inlet port of the compressor; and

retuning at least a portion of the refrigerant from the second evaporator to a first port, intermediate the compressor inlet and outlet ports along the compression path.

12. The method of claim 11 further comprising:

diverting an economizer portion of the refrigerant to bypass at least one of the first and second evaporators.